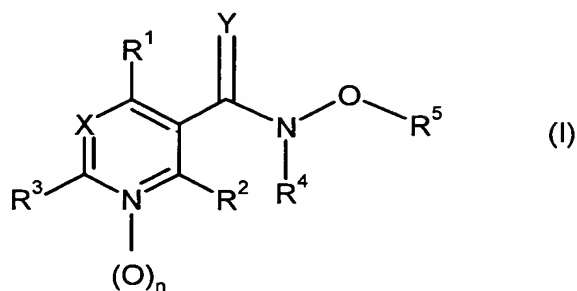


Claims

1. A compound of the formula (I) or a salt thereof,



5

where the symbols and indices are as defined below:

X is =CH- or =N-;

Y is =O or =S;

10 n is 0 or 1;

R¹ is (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, -S(halogen)₅ or halogen, where one or two CH₂ groups may be replaced by -O- or -S- or -N(C₁-C₆)-alkyl, with the proviso that heteroatoms may not be adjacent;

15 R², R³ independently of one another are hydrogen, (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl or halogen, where one or two CH₂ groups may be replaced by -O- or -S- or -N(C₁-C₆)-alkyl, with the proviso that heteroatoms may not be adjacent;

R⁴ is hydrogen, (C₁-C₁₀)-alkyl, (C₃-C₁₀)-alkenyl, (C₃-C₁₀)-alkynyl, (C₃-C₁₀)-cycloalkyl, (C₄-C₈)-cycloalkenyl, (C₈-C₁₀)-cycloalkynyl, (C₆-C₁₄)-aryl, (C₃-C₁₀)-heterocyclyl or R⁶, where the radicals mentioned may optionally be
20 mono- or polysubstituted;

R⁵ is hydrogen, (C₁-C₁₀)-alkyl, (C₃-C₁₀)-alkenyl, (C₃-C₁₀)-alkynyl, (C₃-C₈)-cycloalkyl, (C₄-C₈)-cycloalkenyl, (C₈-C₁₀)-cycloalkynyl, (C₆-C₁₄)-aryl, (C₃-C₁₀)-heterocyclyl or R⁷, where the radicals mentioned may optionally be
mono- or polysubstituted;

R^6, R^7 independently of one another are $-C(W)R^8, -C(W)OR^8, -C(W)SR^8,$
 $-C(W)NR^8_2, -C(W)NR^8-NR^8_2, -C(W)NR^8-NR^8[C(W)R^8], -SO_2NR^8_2, -SO_2OR^8,$
 $-S(O)R^8, -S(O)_2R^8, -PWR^8_2$ or $-PW(OR^8)_2$;

W is $=O, =S, =NOR^8$ or $=NNR^8_2$;

- 5 the radicals R^8 are identical or different and are hydrogen, (C_1-C_6) -alkyl,
 (C_2-C_6) -alkenyl, (C_2-C_6) -alkynyl, (C_3-C_8) -cycloalkyl, (C_4-C_8) -cycloalkenyl,
 (C_3-C_8) -cycloalkyl- (C_1-C_4) -alkyl, (C_4-C_8) -cycloalkenyl- (C_1-C_4) -alkyl,
 (C_3-C_8) -cycloalkyl- (C_2-C_4) -alkenyl, (C_4-C_8) -cycloalkenyl- (C_2-C_4) -alkenyl,
 (C_1-C_6) -alkyl- (C_3-C_8) -cycloalkyl, (C_2-C_6) -alkenyl- (C_3-C_8) -cycloalkyl,
10 (C_2-C_6) -alkynyl- (C_3-C_8) -cycloalkyl, (C_1-C_6) -alkyl- (C_4-C_8) -cycloalkenyl,
 (C_2-C_6) -alkenyl- (C_4-C_8) -cycloalkenyl, (C_6-C_{14}) -aryl, (C_3-C_{10}) -heterocyclyl,
where the radicals mentioned may optionally be mono- or polysubstituted and
two radicals R^8 together optionally form a ring system;
with the proviso that at least one of the radicals R^4 or R^5 has one of the meanings
15 defined for R^6 or R^7 and that, if R^5 is $-C(=O)R^a$, where R^a is (C_1-C_6) -alkyl or
 (C_6-C_{14}) -aryl and where the radicals mentioned may optionally be mono- or
polysubstituted, R^4 is hydrogen or optionally mono- or polysubstituted
 (C_3-C_{10}) -alkenyl, (C_3-C_{10}) -alkynyl, (C_3-C_{10}) -cycloalkyl, (C_4-C_8) -cycloalkenyl,
 (C_8-C_{10}) -cycloalkynyl or R^6 .

20

2. The compound of the formula (I) or a salt thereof as claimed in claim 1 where
X is $=CH-$.
3. The compound of the formula (I) or a salt thereof as claimed in claim 1 where
25 Y is $=O$.
4. The compound of the formula (I) or a salt thereof as claimed in claim 1 where
n is 0.
- 30 5. The compound of the formula (I) or a salt thereof as claimed in claim 1 where
 R^1 is CF_3 .

6. The compound of the formula (I) or a salt thereof as claimed in claim 1 where R^2 and R^3 are hydrogen.
7. The compound of the formula (I) or a salt thereof as claimed in claim 1 where R^4 is hydrogen, (C₁-C₆)-alkyl, (C₁-C₆)-alkyl which is mono- or polysubstituted by F and/or Cl or R^6 .
8. The compound of the formula (I) or a salt thereof as claimed in claim 1 where R^5 is (C₁-C₆)-alkyl, (C₃-C₆)-alkenyl, (C₃-C₆)-alkynyl, (C₃-C₈)-cycloalkyl, (C₆-C₁₄)-aryl or (C₃-C₁₀)-heterocyclyl having a total of one to three nitrogen, oxygen and/or sulfur ring atoms or very particularly preferably R^7 , where the radicals mentioned may optionally be mono- or polysubstituted.
9. The compound of the formula (I) or a salt thereof as claimed in claim 1 where R^6 and R^7 independently of one another are $-C(W)R^8$, $-C(W)OR^8$, $-SO_2OR^8$, $-S(O)R^8$, $-S(O)_2R^8$, $-PWR^8_2$ or $-PW(OR^8)_2$, W is =O and the radicals R^8 are identical or different and are (C₁-C₆)-alkyl, (C₂-C₆)-alkenyl, (C₂-C₆)-alkynyl, (C₃-C₈)-cycloalkyl, (C₆-C₁₄)-aryl, (C₃-C₁₀)-heterocyclyl having a total of one to three nitrogen, oxygen and/or sulfur ring atoms, where the radicals mentioned may optionally be mono- or polysubstituted.
10. The compound of the formula (I) or a salt thereof as claimed in claim 1 where the symbols and indices are as defined below:

X is =CH-;

Y is =O;

n is 0;

R^1 is -CF₃;

R^2 and R^3 are hydrogen;

R^4 is hydrogen, $-C(W)R^8$, $-S(O)R^8$ or $-S(O)_2R^8$;

R^5 is (C₁-C₆)-alkyl, (C₃-C₆)-alkenyl, (C₃-C₆)-alkynyl, (C₃-C₈)-cycloalkyl, (C₆-C₁₄)-aryl, (C₃-C₁₀)-heterocyclyl having a total of one to three nitrogen,

oxygen and/or sulfur ring atoms, $-C(W)R^8$, $-S(O)R^8$ or $-S(O)_2R^8$; where the radicals mentioned may optionally be mono- or polysubstituted.

11. The compound of the formula (I) or a salt thereof as claimed in claim 10

5 where the symbols and indices are as defined below:

R^4 is $-C(W)R^8$ and in particular hydrogen;

R^5 is $-C(W)R^8$, and

the radicals R^8 are identical or different and are hydrogen, (C_1-C_6) -alkyl,

(C_2-C_6) -alkenyl, (C_2-C_6) -alkynyl, (C_3-C_8) -cycloalkyl, (C_6-C_{14}) -aryl,

10 (C_3-C_{10}) -heterocyclyl having a total of one to three nitrogen, oxygen and/or sulfur ring atoms, where the radicals mentioned may optionally be mono- or polysubstituted.

12. The compound of the formula (I) or a salt thereof as claimed in claim 1 where

15 the substituents on the radicals R^4 , R^5 and R^8 are groups R^9 which are as defined below:

the radicals R^9 are identical or different and are R^{10} , or two radicals R^9 together with the atoms to which they are attached form a three- to eight-membered saturated or unsaturated ring system which is optionally substituted by one or more radicals R^{10} and which optionally contains heteroatoms, preferably O, N, S, SO and/or SO_2 ;

the radicals R^{10} are identical or different and are R^8 , R^{11} , $-C(W)R^8$, $-C(W)OR^8$, $-C(W)SR^8$, $-C(W)NR^8_2$, $-OC(W)R^8$, $-OC(W)OR^8$, $-OC(W)SR^8$, $-OC(W)NR^8_2$, $-SC(W)R^8$, $-SC(W)OR^8$, $-SC(W)SR^8$, $-SC(W)NR^8_2$, $-NR^8C(W)R^8$, $-N[C(W)R^8]_2$, $-NR^8C(W)OR^8$, $-NR^8C(W)SR^8$, $-C(W)NR^8-NR^8_2$, $-C(W)NR^8-NR^8[C(W)R^8]$, $-NR^8-C(W)NR^8_2$, $-NR^8-NR^8C(W)R^8$, $-NR^8-N[C(W)R^8]_2$, $-N[(CW)R^8]-NR^8_2$, $-NR^8[(CW)NR^8_2]$, $-NR^8(C=NR^8)R^8$, $-NR^8(C=NR^8)NR^8_2$, $-O-NR^8_2$, $-O-NR^8(CW)R^8$, $-SO_2NR^8_2$, $-NR^8SO_2R^8$, $-SO_2OR^8$, $-OSO_2R^8$, $-OR^8$, $-NR^8_2$, $-SR^8$, $-SiR^8_3$, $-PR^8_2$, $-P(W)R^8_2$, $-SOR^8$, $-SO_2R^8$, $-PWR^8_2$ or $-PW(OR^8)_2$;

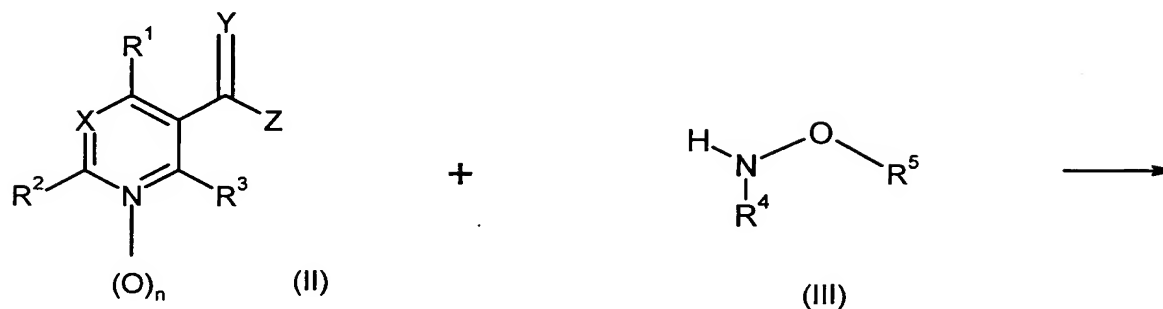
or two radicals R^{10} together are (W) , $(=N-R^8)$, $(=CR^8_2)$, $(=CHR^8)$, or $(=CH_2)$;

W and R^8 are as defined in claim 1,

the radicals R¹¹ are identical or different and are halogen, cyano, nitro, hydroxyl, thio, amino, formyl, (C₁-C₆)-alkanoyl, (C₁-C₆)-alkoxy, (C₃-C₆)-alkenyloxy, (C₃-C₆)-alkynyloxy, (C₁-C₆)-haloalkyloxy, (C₃-C₆)-haloalkenyloxy, (C₃-C₆)-haloalkynyloxy, (C₃-C₈)-cycloalkoxy, (C₄-C₈)-cycloalkenyloxy, (C₃-C₈)-halocycloalkoxy, (C₄-C₈)-halocycloalkenyloxy, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkoxy, (C₄-C₈)-cycloalkenyl-(C₁-C₄)-alkoxy, (C₃-C₈)-cycloalkyl-(C₂-C₄)-alkenyloxy, (C₄-C₈)-cycloalkenyl-(C₂-C₄)-alkenyloxy, (C₁-C₆)-alkyl-(C₃-C₈)-cycloalkoxy, (C₂-C₆)-alkenyl-(C₃-C₈)-cycloalkoxy, (C₂-C₆)-alkynyl-(C₃-C₈)-cycloalkoxy, (C₁-C₆)-alkyl-(C₄-C₈)-cycloalkenyloxy, (C₂-C₆)-alkenyl-(C₄-C₈)-cycloalkenyloxy, (C₁-C₄)-alkoxy-(C₁-C₆)-alkoxy, (C₁-C₄)-alkoxy-(C₃-C₆)-alkenyloxy, carbamoyl, (C₁-C₆)-mono- or dialkylcarbamoyl, (C₁-C₆)-mono- or dihaloalkylcarbamoyl, (C₃-C₈)-mono- or dicycloalkylcarbamoyl, (C₁-C₆)-alkoxycarbonyl, (C₃-C₈)-cycloalkoxycarbonyl, (C₁-C₆)-alkanoyloxy, (C₃-C₈)-cycloalkanoyloxy, (C₁-C₆)-haloalkoxycarbonyl, (C₁-C₆)-haloalkanoyloxy, (C₁-C₆)-alkanamido, (C₁-C₆)-haloalkanamido, (C₂-C₆)-alkenamido, (C₃-C₈)-cycloalkanamido, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkanamido, (C₁-C₆)-alkylthio, (C₃-C₆)-alkenylthio, (C₃-C₆)-alkynylthio, (C₁-C₆)-haloalkylthio, (C₃-C₆)-haloalkenylthio, (C₃-C₆)-haloalkynylthio, (C₃-C₈)-cycloalkylthio, (C₄-C₈)-cycloalkenylthio, (C₃-C₈)-halocycloalkthio, (C₄-C₈)-halocycloalkenylthio, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylthio, (C₄-C₈)-cycloalkenyl-(C₁-C₄)-alkylthio, (C₃-C₈)-cycloalkyl-(C₃-C₄)-alkenylthio, (C₄-C₈)-cycloalkenyl-(C₃-C₄)-alkenylthio, (C₁-C₆)-alkyl-(C₃-C₈)-cycloalkylthio, (C₂-C₆)-alkenyl-(C₃-C₈)-cycloalkylthio, (C₂-C₆)-alkynyl-(C₃-C₈)-cycloalkylthio, (C₁-C₆)-alkyl-(C₄-C₈)-cycloalkenylthio, (C₂-C₆)-alkenyl-(C₄-C₈)-cycloalkenylthio, (C₁-C₆)-alkylsulfanyl, (C₃-C₆)-alkenylsulfanyl, (C₃-C₆)-alkynylsulfanyl, (C₁-C₆)-haloalkylsulfanyl, (C₃-C₆)-haloalkenylsulfanyl, (C₃-C₆)-haloalkynylsulfanyl, (C₃-C₈)-cycloalkylsulfanyl, (C₄-C₈)-cycloalkenylsulfanyl, (C₃-C₈)-halocycloalkylsulfanyl, (C₄-C₈)-halocycloalkenylsulfanyl, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylsulfanyl, (C₄-C₈)-cycloalkenyl-(C₁-C₄)-alkylsulfanyl, (C₃-C₈)-cycloalkyl-(C₃-C₄)-alkenylsulfanyl, (C₄-C₈)-cycloalkenyl-(C₃-C₄)-alkenylsulfanyl, (C₁-C₆)-alkyl-(C₃-C₈)-cycloalkylsulfanyl, (C₂-C₆)-alkenyl-(C₃-C₈)-cycloalkylsulfanyl, (C₂-C₆)-alkynyl-(C₃-C₈)-cycloalkylsulfanyl, (C₁-C₆)-alkyl-

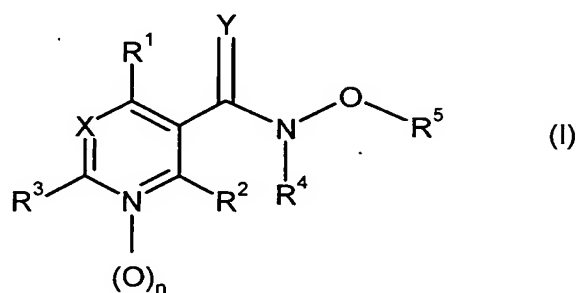
- (C₄-C₈)-cycloalkenylsulfinyl, (C₂-C₆)-alkenyl-(C₄-C₈)-cycloalkenylsulfinyl, (C₁-C₆)-alkylsulfonyl, (C₃-C₆)-alkenylsulfonyl, (C₃-C₆)-alkynylsulfonyl, (C₁-C₆)-haloalkylsulfonyl, (C₃-C₆)-haloalkenylsulfonyl, (C₃-C₆)-haloalkynylsulfonyl, (C₃-C₈)-cycloalkylsulfonyl, (C₄-C₈)-cycloalkenylsulfonyl, (C₃-C₈)-halocycloalkylsulfonyl, (C₄-C₈)-halocycloalkenylsulfonyl, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylsulfonyl, (C₄-C₈)-cycloalkenyl-(C₁-C₄)-alkylsulfonyl, (C₃-C₈)-cycloalkyl-(C₃-C₄)-alkenylsulfonyl, (C₄-C₈)-cycloalkenyl-(C₃-C₄)-alkenylsulfonyl, (C₁-C₆)-alkyl-(C₃-C₈)-cycloalkylsulfonyl, (C₂-C₆)-alkenyl-(C₃-C₈)-cycloalkylsulfonyl, (C₂-C₆)-alkynyl-(C₃-C₈)-cycloalkylsulfonyl, (C₁-C₆)-alkyl-(C₄-C₈)-cycloalkenylsulfonyl, (C₂-C₆)-alkenyl-(C₄-C₈)-cycloalkenylsulfonyl, (C₁-C₆)-dialkylamino, (C₁-C₆)-alkylamino, (C₃-C₆)-alkenylamino, (C₃-C₆)-alkynylamino, (C₂-C₆)-haloalkylamino, (C₃-C₆)-haloalkenylamino, (C₃-C₆)-haloalkynylamino, (C₃-C₈)-cycloalkylamino, (C₄-C₈)-cycloalkenylamino, (C₃-C₈)-halocycloalkamino, (C₄-C₈)-halocycloalkenylamino, (C₃-C₈)-cycloalkyl-(C₁-C₄)-alkylamino, (C₄-C₈)-cycloalkenyl-(C₁-C₄)-alkylamino, (C₃-C₈)-cycloalkyl-(C₃-C₄)-alkenylamino, (C₄-C₈)-cycloalkenyl-(C₃-C₄)-alkenylamino, (C₁-C₆)-alkyl-(C₃-C₈)-cycloalkylamino, (C₂-C₆)-alkenyl-(C₃-C₈)-cycloalkylamino, (C₂-C₆)-alkynyl-(C₃-C₈)-cycloalkylamino, (C₁-C₆)-alkyl-(C₄-C₈)-cycloalkenylamino, (C₂-C₆)-alkenyl-(C₄-C₈)-cycloalkenylamino, (C₁-C₆)-trialkylsilyl, aryl, aryloxy, arylthio, arylamino, aryl-(C₁-C₄)-alkoxy, aryl-(C₃-C₄)-alkenyloxy, aryl-(C₁-C₄)-alkylthio, aryl-(C₂-C₄)-alkenylthio, aryl-(C₁-C₄)-alkylamino, aryl-(C₃-C₄)-alkenylamino, aryl-(C₁-C₆)-dialkylsilyl, diaryl-(C₁-C₆)-alkylsilyl, triarylsilyl and 5- or 6-membered heterocyclyl, where the cyclic moiety of the 14 last-mentioned radicals is optionally substituted by one or more radicals from the group consisting of halogen, cyano, nitro, amino, hydroxyl, thio, (C₁-C₄)-alkyl, (C₁-C₄)-haloalkyl, (C₃-C₈)-cycloalkyl, (C₁-C₄)-alkoxy, (C₁-C₄)-haloalkoxy, (C₁-C₄)-alkylthio, (C₁-C₄)-haloalkylthio, (C₁-C₄)-alkylamino, (C₁-C₄)-haloalkylamino, formyl and (C₁-C₄)-alkanoyl.
13. A process for preparing compounds of the formula (I) as claimed in claim 1, which comprises reacting activated carboxylic acid derivatives of the formula (II) with

hydroxylamine derivatives of the formula (III), where R^1 , R^2 , R^3 , R^4 , R^5 , X, Y and n are as defined in claim 1



5

14. A process for preparing compounds of the formula (I) as claimed in claim 1



where R^1 , R^2 , R^3 , R^4 , R^5 , X, Y and n are as defined in claim 1 and at least one of the radicals R^4 or R^5 is $-C(W)R^8$, $-C(W)OR^8$, $-C(W)SR^8$, $-C(W)NR^8_2$, $-C(W)NR^8-NR^8_2$, $-C(W)NR^8-NR^8[C(W)R^8]$, $-SO_2NR^8_2$, $-SO_2OR^8$, $-S(O)R^8$, $-S(O)_2R^8$, $-PWR^8_2$ or $-PW(OR^8)_2$, which comprises reacting a compound of the formula (I) where R^4 and R^5 are hydrogen with a compound of the formula (IV),



10

where Hal is a halogen atom and R^{12} is a radical selected from the group consisting of $-C(W)R^8$, $-C(W)OR^8$, $-C(W)SR^8$, $-C(W)NR^8_2$, $-C(W)NR^8-NR^8_2$,

- 5 $-C(W)NR^8-NR^8[C(W)R^8]$, $-SO_2NR^8_2$, $-SO_2OR^8$, $-S(O)R^8$, $-S(O)_2R^8$, $-PWR^8_2$ and $-PW(OR^8)_2$, where W and R^8 have the meaning defined in claim 1.

15. A composition having insecticidal, acaricidal, ixodicidal, nematocidal and/or molluscicidal action, which comprises at least one compound of the formula (I) or a salt thereof as claimed in claim 1.

10

16. The composition as claimed in claim 15, which comprises a further active compound from the group of the acaricides, fungicides, herbicides, insecticides, nematocides or growth-regulating substances.

- 15 17. A method for controlling, deterring or repelling pests including nuisance pests of plants, which comprises treating the plants and/or pests/nuisance pests with an effective amount of a compound of formula (I) or a salt thereof as claimed in claim 1.

18. The method as claimed in claim 17 where the plant is a transgenic crop plant.

20

19. The use of the compound of the formula (I) or a salt thereof as claimed in claim 1 for controlling, deterring or repelling pests including nuisance pests of plants.

20. The use of the compound of the formula (I) or a salt thereof as claimed in
25 claim 1 for preparing a medicament for controlling endo- and ectoparasites.